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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/513,489	02/25/2000	Aravind Sitaraman	CISCO-1818	7304

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EXAMINER	
AVELLINO, JOSEPH E	
ART UNIT	**PAPER NUMBER**
2143	

DATE MAILED: 08/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/513,489	SITARAMAN ET AL.	
	Examiner	Art Unit	
	Joseph E. Avellino	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 August 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,9,13,21-24,26-29,45-48 and 50-71* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,9,13,21-24,26-29,45-48 and 50-71* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 08/09/05
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-5, 9, 13, 21-24, 26-29, 45-48, 50-71 are pending in this examination.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 2, 5, 13, 21, 25, 26, 45, 49, 51, 53-56, 58-61, and 63-71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins (USPN 5,159,592) in view of Inoue et al. (USPN 6,891,819) (hereinafter '819).

2. Referring to claim 1, Perkins discloses a network access server (NAS) providing a connection to a user in a data communications network, said NAS being capable of communicating with a home gateway server (HGS), said NAS comprising:

an HGS identifier (pseudo-network number) identifying an HGS to which the request for an IP address is to be transmitted wherein the ome domain is distinct from a domain associated with said NAS (col. 8, lines 45-68);

an IP address requester for requesting an IP address from the HGS (global Gateway or GW) on behalf of a user, without using a tunneling protocol, the HGS maintaining a pool of IP addresses for allocation to authorized users associated with the NAS (local Gateway or GW) (e.g. abstract; Figures 2-5; col. 5, lines 50-65);

an IP address relayer for receiving an IP address allocated to the user from the HGS and for relaying the allocated IP address to the user (mobile unit) (e.g. abstract; Figures 2-5; col. 5, lines 50-65); and

a memory coupled with said IP address requester and said IP address relayer, said memory storing association between an identification of the user and the IP address allocated to the user (col. 5, lines 15-27).

Perkins does not disclose that the home domain does not contain any IP addresses in common with said domain associated with said NAS. In analogous art '819 discloses another network access server providing a user with access and connection to the internet wherein the home domain contains no Ip addresses in common with the domain associated with the NAS (i.e. network 1b contains different addresses of home network 1a). It would have been obvious to one of ordinary skill in the art to combine the teaching of '819 with Perkins in order to allow the system of Perkins to be compatible with other networks, thereby increasing the range of the system as well as the customer base of which it can service, as well as authenticating an individual user who is operating the mobile computer when the mobile computer is connected to a visited site network and transmits a current location registration message to the home agent as supported by '819 (col. 2, lines 55-60).

3. Referring to claim 2, Perkins discloses a detector for periodically detecting connection of the user to the NAS, said detector updating the association in said

memory to indicate that the allocated IP address is no longer in use if the connection of the user is lost (col. 5, lines 27-49).

4. Referring to claim 5, Perkins discloses the HGS (global gateway) identifier is responsive to log-in information (i.e. serial number, or other identifying data provided by the mobile unit, since it is inherent that if there are multiple global gateways, there must be some distinguishing identifier provided by the mobile unit in order for the local gateway to determine which global gateway to forward the IP request) provided by the user (col. 8, lines 45-67).

5. Referring to claim 13, Perkins discloses a generator, responsive to the receipt of a disconnection request from the user (mobile unit), for generating and sending a notice to the HGS (global gateway) that the user is no longer connected to the NAS (local gateway) (col. 6, line 59 to col. 7, line 2).

6. Claims 21, 25, 26, 45, 49, 54-56, 58-61, and 63 are rejected for similar reasons as stated above.

7. Referring to claims 51, and 53 Perkins discloses said IP address requester transmits the user's authentication information to the HGS with the request for an IP address (col. 5, line 50 to col. 6, line 20).

8. Referring to claims 64-67, Perkins discloses the global communications internetwork is the Internet (remote users spread over a wide geographic area) (col. 4, lines 21-38).

9. Referring to claims 68-71, Perkins discloses the user (i.e. mobile unit) belongs to the home domain (col. 8, lines 55-65).

Claims 3, 9, 23, 28, 47, 57, and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins in view of '819 in view of Holt et al. (USPN 6,070,192) (hereinafter Holt).

10. Referring to claims 3, 23, 28, 29 and 47, Perkins in view of '819 discloses a NAS as stated in the claims above. Perkins in view of '819 does not disclose providing a receiver for receiving periodic queries about the connection of the user to the NAS and a responder to inform the HGS about the connection. Holt discloses a receiver for receiving periodic queries from the Network Controller (NC) about the status of the user connection to the NAS (col. 12, line 64 to col. 13, line 14); and

a responder responsive to said periodic queries for informing the NC that the user is still connected to the NAS (col. 12, line 64 to col. 13, line 14).

Holt does not disclose informing the HGS that the user is still connected, however the system of Holt could be obviously modified to incorporate the NC as part of the HGS, therefore it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to modify the system of Holt to reduce the overall complexity of the system and reducing overall network traffic.

11. Referring to claims 9, 57, and 62, Perkins in view of '819 discloses a NAS as stated in the claims above. Perkins in view of '819 does not disclose the HGS identifier is responsive to call information associated with the incoming line. Holt discloses an HGS identifier responsive to call information associated with the incoming line used by the user to access the NAS for identifying an HGS to which to forward the user's request for an IP address (col. 11, lines 1-7). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Perkins and '819 with Holt to allow load balancing techniques such that bottlenecks are not realized at gateways as supported by Holt (col. 4, lines 45-50).

12. Referring to claim 52, Perkins in view of '819 in view of Holt disclose the NAS as stated in the claims above. Perkins in view of '819 in view of Holt do not disclose that the IP address requester uses RADIUS, however it is suggested by the prior art that it would have been obvious to incorporate RADIUS into the combined system of Perkins and Holt to provide for reduced complexity of the system while allowing for the ease of future upgrades or replacements.

Claims 4, 24, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins in view of '819 in view of Holt as applied to the claims listed above, and further in view of Inuoe et al. (USPN 6,442,616) (hereinafter Inuoe).

13. Referring to claims 4, 24, and 48 Perkins in view of '819 in view of Holt discloses a Network Access Server (NAS) as stated in the claims above. Perkins in view of '819 in view of Holt does not disclose the NAS comprising a receiver for receiving periodic signals from the user and a forwarder responsive to said receiver for forwarding information to the HGS that the user is still connected to the NAS. Inoue discloses:

a receiver for receiving periodic signals from the user (col. 15, lines 21-24); and

a forwarder (home router) responsive to said receiver for forwarding information to the HGS that the user is still connected to the NAS (col. 15, lines 25-26).

It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Perkins, '819 and Holt with Inoue to efficiently monitor the connections in the network while reducing the complexity of the monitoring components.

Claims 22, 27, 46, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins in view of '819 in view of Holt as applied to the claims above, and further in view of Reid et al. (USPN 6, 233, 616) (hereinafter Reid).

14. Referring to claims 22, 27, 46, and 50, Perkins in view of '819 in view of Holt disclose a NAS as stated in the claims above. Perkins in view of '819 in view of Holt do not disclose detecting a connection with the user and sending periodic keep-alive messages associated with the user to the HGS as long as the continuing connection with the user is detected. Reid discloses detecting a connection with the user and sending periodic keep-alive messages associated with the user to the HGS as long as the continuing connection with the user is detected (col. 2, lines 54-61; col. 4, lines 39-46). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Reid with Perkins and Holt to efficiently determine if the user is connected to the system, efficiently reducing complexity of messages transmitted between components.

Response to Amendment

15. Applicant's arguments filed August 9, 2005have been fully considered but are not persuasive.

16. In the remarks, Applicant argues, in substance, that (1) Perkins in view of Inoue do not disclose an IP address requestor for requesting an IP address from the HGS, on behalf of a user without using a tunneling protocol since Inoue discloses being built upon RFC 2002, which "clearly describes the use of a tunneling protocol on datagrams

transmitted between networks", and (2) Inoue teaches away since the request excludes the IP address request from the registration message.

17. As to point (1) Applicant is correct in that RFC 2002 as well as Inoue discloses encapsulating packets destined to the home address of the mobile computer on the home network (col. 10, lines 5-10) however Applicant will appreciate the fact that only the packets destined to the mobile device are tunneled to the device, not the registration request from the foreign agent to the home agent. Applicant's attention is directed to section 3.7.2.2, pages 44-45 of RFC 2002 which discloses "Forwarding a Valid Request to a Home Agent". Applicant will clearly find that the request is modified such that various fields in the UDP header such as IP source/destination addresses, UDP source/Destination Addresses (see top of page 45). At such time the request is sent to the home agent and a timer begins. At no time is the packet encapsulated (i.e. tunneled) to the home agent, this only occurs when a packet is received at the home agent which needs to be forwarded to the mobile client (see section 4.2.3 "Home Agent Consideration", *"the home agent tunnels the datagram to the mobile nodes currently registered care of address or addresses"*). By this rationale, the combination of Perkins in view of Inoue meets the claimed IP address requestor, and as such the rejection is maintained.

18. As to point (2) Applicant is incorrect in the rationalization that Inoue does not include the IP address request in the registration message. Applicant's attention is

directed to col. 10, lines 39-45 where it is stated that DHCPDISCOVER and DHCPOFFER messages are sent between the hosts for requesting and leasing a temporal home address. This home address is the IP address request. By this rationale, the rejection is maintained. Therefore Inoue does not teach away from handling IP address requests inter-domain.

Conclusion

19. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph E. Avellino whose telephone number is (571) 272-3905. The examiner can normally be reached on Monday-Friday 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JEA
August 20, 2005

WILLIAM C. VAUGHN, JR.
PRIMARY EXAMINER